

IN THE SPECIFICATION

Please replace paragraph 26, with the following amended paragraph:

[0026] The present system can be extended with more channels, further improving the overall accuracy of the present system. The present system may be extended with a dynamic channel weighting function that uses human motor laws to calculate the plausibility of the user relying on either ~~ideal~~ location or shape information. For example, a user drawing a shape gesture very slowly would indicate that the user is producing a stroke by looking at the corresponding keys on the layout; hence the ~~ideal~~ location channel should have more weight than the shape channel and vice versa.

Please replace paragraph 66, with the following amended paragraph:

[0066] In another alternative embodiment, θ may be dynamically adjusted by calculating the total normative time of writing the pattern of word i :

where $D_{k, k+1}$ is the distance between the [[k th]] k^{th} and the [[$k + 1$ th]] $(k + 1)^{\text{th}}$ letters of word i on the keyboard; W is the key width, n is the number of letters in the word; and a and b are two constants in Fitts' law. In the context of virtual keyboard, the values of constants a and b are estimated at $a = 83\text{ms}$, $b = 127\text{ms}$. Reference is made to Accot, J., and Zhai, S., "More than dotting the i's - foundations for crossing-based interfaces," Proc. CHI. 2002, pages 73 – 80; and to Zhai, S., Sue, A., and Accot, J., "Movement model, hits distribution and learning in virtual keyboarding," Proc. CHI. 2002, pages 17 – 24.

Once $t_n(i)$ for each word, and the total time of the actual gesture production t_a are determined, it is then possible to modify the probability calculated from the location based classifier. This information could be used to adjust the θ value with in the following equation:

if $t_a \geq t_n(i)$, $\theta_L = \theta$

if $t_a < t_n(i)$, $\theta_L = \theta$

This means that the actual time is greater than the Fitts' law prediction, the prediction. The user could be taking time to look for the keys. No adjustment is needed in this case.

If $t_a \geq t_n(i)$, If $t_a < t_n(i)$, $\theta_L = \theta(1 + \gamma \log_2(t_n(i)/t_a))$

For example, if t_a is 50% of $t_n(i)$, θ will increase by 100 γ percent, γ is an empirically adjusted parameter, expected to be between 1 and 10.

It should be noted that this approach is more than simply adjusting the relative weight between the location and the non-location channels. It modifies the location based channels' probability of each individual word according to its path on the keyboard.